UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/748,162	12/31/2003	Misao Shiina	Q79094	6962

23373   7590   04/28/2010
SUGHRUE MION, PLLC
2100 PENNSYLVANIA AVENUE, N.W.
SUITE 800
WASHINGTON, DC 20037

EXAMINER
NASH, LASHANYA RENEE

ART UNIT	PAPER NUMBER
2453	

NOTIFICATION DATE	DELIVERY MODE
04/28/2010	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

sughrue@sughrue.com
PPROCESSING@SUGHRUE.COM
USPTO@SUGHRUE.COM

PTOL-90A (Rev. 04/07)

	Application No.	Applicant(s)
Office Action Summary	10/748,162	SHIINA, MISAO
	Examiner	Art Unit
	LASHANYA R. NASH	2453

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11 December 2009*.
2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-21* is/are pending in the application.
　　4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) *1-21* is/are rejected.
7)☐ Claim(s) _____ is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.
10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.
　　Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
　　Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
　　a)☐ All   b)☐ Some * c)☐ None of:
　　　1.☐ Certified copies of the priority documents have been received.
　　　2.☐ Certified copies of the priority documents have been received in Application No. _____.
　　　3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
　　* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5)☐ Notice of Informal Patent Application
6)☐ Other: _____.

DETAILED ACTION

This Office action is in response to the request for continued examination submitted

11 December 2009. Claims 1-21 are presented for further consideration. Claims 1, 7,

10, 13 and 18 are currently amended. Claim 21 is new.

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the

fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection.

Since this application is eligible for continued examination under 37 CFR 1.114,

and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the

previous Office action has been withdrawn pursuant to 37 CFR 1.114.

Applicant's submission filed on 11 December 2009 has been entered.

Response to Arguments

Applicant's arguments, see Remarks, filed 11 December 2009, with

respect to the rejection of claims 1-20 under Garcia-Luna-Aceves in view of

Lachiramaka, have been fully considered and are persuasive. Therefore, the

rejection has been withdrawn. However, upon further consideration, a new

grounds of rejection is made in view of newly found references Susai et al. (US

Patent 6,411, 986) and Primak et al. (US 6,598,077), as set forth below in the

Office action.

Applicant's arguments (i.e. GLA does not teach or suggest means for detecting a change in the IP routing table), see Remarks, filed 11 December 2009, with respect to the rejection of claims 1-20 under Garcia-Luna-Aceves in view of Lachiramaka, have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new grounds of rejection is made in view of newly found references Garcia-Luna-Aceves ["A Path-Finding Algorithm for Loop-Free Routing"- retrieved from IEEE database], as set forth below in the Office action.

Claim 7 recites features similar to claim 1, therefore upon further consideration, a new grounds of rejection is made in view of newly found references Susai et al. (US Patent 6,411, 986) and Primak et al. (US 6,598,077), as set forth below in the Office action.

Claim 13, recites features similar to claim 1, therefore upon further consideration, a new grounds of rejection is made in view of newly found references Susai et al. (US Patent 6,411, 986), Primak et al. (US 6,598,077) and Garcia-Luna-Aceves ["A Path-Finding Algorithm for Loop-Free Routing"- retrieved from IEEE database] as set forth below in the Office action.

Claim 18, recites features similar to claim 1, therefore upon further consideration, a new grounds of rejection is made in view of newly found

references Susai et al. (US Patent 6,411, 986) and Primak et al. (US 6,598,077),

as set forth below in the Office action.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or
> composition of matter, or any new and useful improvement thereof, may obtain a patent
> therefor, subject to the conditions and requirements of this title.

Claims 18-19 are rejected under 35 U.S.C. 101 because the claimed invention is

directed to non-statutory subject matter. Claims 18-19 are rejected under 35

U.S.C. 101 because the claimed invention is directed to non-statutory subject

matter. Examiner notes that although Applicant's specification discloses a

recording medium as apart of the structure of an IP router (Figure 2-item 19,

page 14-15) the disclosure does not limit the scope of the claims exclusively to

these aforementioned forms of media. Thus, Examiner applies the broadest

reasonable interpretation to the claimed "tangible recording medium" and

considers the claims to intend to cover both transitory and non-transitory media.

As a result, the transitory media (i.e. propagating signal) which is not patentable

subject matter causes the claims to be rejected under 35 USC §101, as non-

statutory.

The above rejection may be overcome by simply amending the claims to

positively recite a "non-transitory" computer readable storage medium.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for

all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described
> as set forth in section 102 of this title, if the differences between the subject matter sought to
> be patented and the prior art are such that the subject matter as a whole would have been
> obvious at the time the invention was made to a person having ordinary skill in the art to which
> said subject matter pertains. Patentability shall not be negatived by the manner in which the
> invention was made.

Claims 1, 3-7, 9-12, 18 and 21 are rejected under 35 U.S.C. 103(a) as

being unpatentable over Susai (US Patent 6,411,986) and Primak et al. (US

Patent 6,598,077)hereinafter referred to as Susai and Primak, respectively.

In reference to claim 1, Susai discloses:

- An Internet Protocol (IP) router (i.e. interface unit; column 3, lines 64-67;

  Figure 2-item 202) including an IP routing table which stores routing

  information for connecting a plurality of client devices (Figure 2-items C1, C2,

  C3) with an original server (column 5, lines 22-29) which is at least an origin

  of supplying a content and with a plurality of mirror servers (Figure 2-items

  S1, S2, S3) into which the content supplied from the original server is copied

  (i.e. replicating content on multiple servers; column 2, lines 39-46), the IP

  router comprising:

- Means for (Figure 2-item 202) ending a connection relating to a packet output

  from a specific port of client device (i.e. packet with source IP address and

  port number of client; column 4, line 62-column 5, line 7) and obtaining

  request information of a content requested by the client device (i.e. interface

  unit receives request from client; column 4, lines 17-24);

- Means for (Figure 2-item 202) selecting an optimum server for the request

  information (i.e. determining the sever to direct client request; column 4, lines

  25-33) if the obtained request information corresponds to the plurality of

  mirror servers, and based on the routing information (i.e. requested web

  content maps to multiple servers; column 10, lines 1-18);

- Means for (Figure 2-item 2020) obtaining the content by connecting with the

  selected optimum server via a server side interface of the IP router located

  proximate to the plurality of clients and via a network which interconnects the

  original server and the plurality of mirror devices (i.e. interface unit opens

  connection to server and receives response from server; column 4, lines 30-

  40); and

- Means for (Figure 2-item 202) transferring the obtained content to the client

  by connecting to the client device via a client side interface of the IP router

  (i.e. interface unit passes server response to the client; column 4, lines 40-

  49).

However, the reference fails to disclose selecting the optimum server based for

the request information based on information which is to be an index for selecting

an optimum server. Nonetheless, this feature was well known in the art at the

time of the invention, as further evidenced by Primak. Therefore, it would have

been obvious for one of ordinary skill in the art at the time of the invention to

accordingly modify the teachings of Susai.

    In an analogous art, Primak discloses routing requests for content from

clients to servers in a networking environment (abstract). Primak further

discloses a routing with a means for selecting the optimum server (i.e. content

router selects appropriate server that is best suited to provide the requested

content data to the client; column 7, lines 5-9) based for the request information

based on information which is to be an index for selecting an optimum server (i.e.

performance parameters employed to select server for routing; column 7, lines

15-30). One of ordinary skill in the art would have been so motivated to

accordingly modify the teachings of Susai so as to route a client's request to a

server based on various factors (i.e. content availability, server capacity) for

selecting the best suited server to provide the content and thereby improving

system performance of retrieving content (Primak; column 2, lines 60-67).

In reference to claim 18, Susai discloses a tangible recording medium

storing software program (i.e. computer program product; column 12, lines 48-

55) for implementing the method with the limitations as discussed above in

considering 1, above.

In reference to claim 7, Susai discloses:

- A communication system (Figure 2; column 3, lines 55-60) comprising:

- A plurality of client devices (Figure 2-items C1, C2, C3);

- an original server which is at least an origin of supplying a content (column 5,

  lines 22-29);

- a plurality of mirror servers (Figure 2-items S1, S2, S3) which mirror servers and hold the content supplied from the original server (i.e. replicating content on multiple servers; column 2, lines 39-46);

- An Internet Protocol (IP) router (i.e. interface unit; column 3, lines 64-67; Figure 2-item 202) located proximate to the plurality of client devices and comprising a client side interface coupled to the plurality of client devices and a server side interface (i.e. interface unit connects to clients and servers; column 4, lines 1-10), which connects to a network which interconnects the original server and the mirror servers (i.e. Internet; Figure 2), wherein the IP router includes:

- an IP routing table which stores routing information (column 5, lines 22-29);

- Means for (Figure 2-item 202) ending a connection relating to a packet output from a specific port of client device (i.e. packet with source IP address and port number of client; column 4, line 62-column 5, line 7) and obtaining request information of a content requested by the client device (i.e. interface unit receives request from client; column 4, lines 17-24);

- Means for (Figure 2-item 202) identifying the mirror servers comprising the content requested based on the obtained requested information (i.e. requested web content maps to multiple servers; column 10, lines 1-18) and selecting an optimum server for the request information based on the routing information (i.e. determining the sever to direct client request; column 4, lines 25-33) ;

- Means for (Figure 2-item 2020) obtaining the content by connecting with the selected optimum server selected (i.e. interface unit opens connection to server and receives response from server; column 4, lines 30-40); and

- Means for (Figure 2-item 202) transferring the obtained content to the client device (i.e. interface unit passes server response to the client; column 4, lines 40-49).

However, the reference fails to disclose selecting the optimum server based for the request information based on information which is to be an index for selecting an optimum server. Nonetheless, this feature was well known in the art at the time of the invention, as further evidenced by Primak. Therefore, it would have been obvious for one of ordinary skill in the art at the time of the invention to accordingly modify the teachings of Susai.

In an analogous art, Primak discloses routing requests for content from clients to servers in a networking environment (abstract). Primak further discloses a routing with a means for selecting the optimum server (i.e. content router selects appropriate server that is best suited to provide the requested content data to the client; column 7, lines 5-9) based for the request information based on information which is to be an index for selecting an optimum server (i.e. performance parameters employed to select server for routing; column 7, lines 15-30). One of ordinary skill in the art would have been so motivated to accordingly modify the teachings of Susai so as to route a client's request to a server based on various factors (i.e. content availability, server capacity) for

selecting the best suited server to provide the content and thereby improving

system performance of retrieving content (Primak; column 2, lines 60-67).

In reference to claims 3 and 9, Primak discloses wherein the information to be an

index for selecting the optimum server is at least one of: information for

driving/stopping state per server, RTT (Round-Trip Time) information, or

throughput information (column 7, lines 18--57).

In reference to claims 4 and 10, Primak discloses wherein the means for

selecting an optimum server selects the optimum server by additionally

considering a past access track record (column 7, lines 18--57).

In reference to claims 5 and 11 Primak discloses wherein a health check for

obtaining information, per server, which is to be an index for selecting the

optimum server, is performed when a change in contents of the IP routing table is

recognized (column 7, lines 30-57).

In reference to claims 6 and 12, Primak discloses means for monitoring a

changing situation of the traffic for a predetermined certain period of time wherein

the means for altering the band setting alters the band setting for each service

class by using a result of monitoring the changing situation of the traffic,

performed by the means, as a trigger (column 7, lines 30-57).

In reference to claim 21, Primak discloses identifying means for identifying the mirror servers comprising the requested content based on the obtained request information; and server monitoring means for obtaining a Round-Trip-Time (RTT) information for the identified mirror servers and proving the obtained RTT information to the means for selecting the optimum server, which selects the optimum server based on the RTT information for the identified mirror servers (column 7, lines 15-57).

Claims 2, 8, 13-17 and 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Susai (US Patent 6,411,986) and Primak et al. (US Patent 6,598,077) and Garcia-Luna-Aceves ["A Path-Finding Algorithm for Loop-Free Routing"- retrieved from IEEE database], hereinafter referred to as Susai, Primak and Garcia-Luna-Aceves, respectively.

In reference to claim 13, Susai discloses:

- A band setting method (i.e. connection multiplexing; abstract) of an Internet Protocol (IP) router (i.e. interface unit; column 3, lines 64-67; Figure 2-item 202) for setting a band when connecting a plurality of devices (Figure 2-items C1, C2, C3) with an original server (column 5, lines 22-29) which is at least an origin of supplying a content and with a plurality of mirror servers (Figure 2-items S1, S2, S3) into which the content supplied from the original server is copied (i.e. replicating content on multiple servers; column 2, lines 39-46), the IP router comprising:

- ending a connection relating to a packet output from a specific port of client device (i.e. packet with source IP address and port number of client; column 4, line 62-column 5, line 7) and obtaining request information of a content requested by the client device (i.e. interface unit receives request from client; column 4, lines 17-24);

- selecting an optimum server for the request information (i.e. determining the sever to direct client request; column 4, lines 25-33) if the obtained request information corresponds to the plurality of mirror servers, and based on the routing information (i.e. requested web content maps to multiple servers; column 10, lines 1-18);

- obtaining the content by connecting with the selected optimum server via a server side interface of the IP router located proximate to the plurality of clients and via a network which interconnects the original server and the plurality of mirror devices (i.e. interface unit opens connection to server and receives response from server; column 4, lines 30-40); and

- transferring the obtained content to the client by connecting to the client device via a client side interface of the IP router (i.e. interface unit passes server response to the client; column 4, lines 40-49);

However, the reference fails to disclose selecting the optimum server based for the request information based on information which is to be an index for selecting an optimum server; altering a selection criteria of the optimum server based on a result of detecting that the network topology has been changed; and altering a band setting for each of the service class according to a traffic change

accompanying an alteration of the selection criteria. Nonetheless, this feature was well known in the art at the time of the invention, as further evidenced by Primak. Therefore, it would have been obvious for one of ordinary skill in the art at the time of the invention to accordingly modify the teachings of Susai.

In an analogous art, Primak discloses routing requests for content from clients to servers in a networking environment (abstract). Primak further discloses a routing with a means for selecting the optimum server (i.e. content router selects appropriate server that is best suited to provide the requested content data to the client; column 7, lines 5-9) based for the request information based on information which is to be an index for selecting an optimum server (i.e. performance parameters employed to select server for routing; column 7, lines 15-30); altering a selection criteria of the optimum server based on a result of detecting that the network topology has been changed (column 7, lines 47-57); and altering a band setting for each of the service class according to a traffic change accompanying an alteration of the selection criteria (column 7, lines 15-30). One of ordinary skill in the art would have been so motivated to accordingly modify the teachings of Susai so as to route a client's request to a server based on various factors (i.e. content availability, server capacity) for selecting the best suited server to provide the content and thereby improving system performance of retrieving content (Primak; column 2, lines 60-67). However, the references fail to disclose detecting, from a change in contents of the IP routing table, that a network topology has been changed. Nonetheless, this was a well known feature in the art at the time of the invention, as further evidenced by Garcia-Luna-

Aceves. Therefore, one of ordinary skill in the art at the time of the invention would have been motivated to accordingly modify the teachings of Susai and Primak.

In an analogous art, Garcia-Luna-Aceves discloses a routing method (abstract). Garcia-Luna-Aceves further discloses detecting, from a change in contents of the IP routing table, that a network topology has been changed (*D. Routing Table Updating*, paragraph 5; page 5). One of ordinary skill in the art would have been so motivated to accordingly modify the teachings of Susai and Primak, so as to accurately determine and maintain changes in network topology (i.e. failed links, loss of connectivity) in the distance and routing tables (Garcia-Luna-Aceves; *II. Network Model*, paragraphs 1-2; page 2).

In reference to claim 20 Susai discloses downloading software to a computer (i.e. computer program product; column 12, lines 48-55) for implementing the method with the limitations as discussed above in considering 13, above.

In reference to claims 2, 8 and 19, Primak discloses a means for altering a selection criteria of the optimum server based on a result of detecting that the network topology has been changed (column 7, lines 47-57); and a means for altering a band setting for each service class according to a traffic change accompanying an alteration of the selection criteria (column 7, lines 15-30) However, Susai and Primak fail to disclose a means for detecting, from a change in the contents of the IP routing table, that a network topology has been changed.

Nonetheless, this was a well known feature in the art at the time of the invention,

as further evidenced by Garcia-Luna-Aceves. Therefore, one of ordinary skill in

the art at the time of the invention would have been motivated to accordingly

modify the teachings of Susai and Primak.

In an analogous art, Garcia-Luna-Aceves discloses a routing method

(abstract). Garcia-Luna-Aceves further discloses a means for detecting, from a

change in contents of the IP routing table, that a network topology has been

changed (*D. Routing Table Updating,* paragraph 5; page 5). One of ordinary skill

in the art would have been so motivated to accordingly modify the teachings of

Susai and Primak, so as to accurately determine and maintain changes in

network topology (i.e. failed links, loss of connectivity) in the distance and routing

tables (Garcia-Luna-Aceves; *II. Network Model,* paragraphs 1-2; page 2).

In reference to claim 14 Primak discloses wherein the information to be an index

for selecting the optimum server is at least one of: information for

driving/stopping state per server, RTT (Round-Trip Time) information, or

throughput information (column 7, lines 18--57).

In reference to claim 15 Primak discloses wherein the means for selecting an

optimum server selects the optimum server by additionally considering a past

access track record (column 7, lines 18--57).

In reference to claim 16 Primak discloses wherein a health check for obtaining

information, per server, which is to be an index for selecting the optimum server

is performed when a change in contents of the IP routing table is recognized

(column 7, lines 30-57).

In reference to claim 17 Primak discloses means for monitoring a changing

situation of the traffic for a predetermined certain period of time wherein the

means for altering the band setting alters the band setting for each service class

by using a result of monitoring the changing situation of the traffic, performed by

the means, as a trigger (column 7, lines 30-57).

Conclusion

Any inquiry concerning this communication or earlier communications from

the examiner should be directed to LASHANYA R. NASH whose telephone

number is (571)272-3957. The examiner can normally be reached on 9am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the

examiner's supervisor, Joseph Thomas can be reached on (571) 272-6776. The

fax phone number for the organization where this application or proceeding is

assigned is 571-273-8300.

Information regarding the status of an application may be obtained from

the Patent Application Information Retrieval (PAIR) system. Status information

for published applications may be obtained from either Private PAIR or Public

PAIR. Status information for unpublished applications is available through

Private PAIR only. For more information about the PAIR system, see http://pair-

direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-

free). If you would like assistance from a USPTO Customer Service

Representative or access to the automated information system, call 800-786-

9199 (IN USA OR CANADA) or 571-272-1000.

/LaShanya R Nash/
Examiner, Art Unit 2453
April 21, 2020

/Liangche A. Wang/
Primary Examiner, Art Unit 2453